OPERATING INSTRUCTIONS

RN10 VL-2

102006 ORDER NO.: 00242_VL2 GB

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General:

In case of complaints, please contact your supplier.

We offer a guarantee period of two years from the date of invoice.

The guarantee does not cover faults resulting from faulty operation, overloading and lacking observance of directions of maintenance.

It should be checked that all loose parts are delivered with the mixer such as bowl, tools and intermediate pieces.

To the attachment drive should only be connected attachments produced by **A/S WODSCHOW & CO**.

Safety:

The constant noise level of the workplace of the operator is lower than 70 dB (A).

The mixer is designed for manufacture of products which do not during processing cause reactions or emit substances which may be detrimental to the user.

Putting your fingers in the bowl while the mixer is running may cause injuries.

Installation of new mixer:

Installation and securing:

If the mixer is placed on a table, it must be bolted on to the table. Use 4 M6 bolts with a length of 90 mm + the thickness of the table top, **see drawing page 10**

If the mixer is placed on a bench stand, it can be placed direct on the floor. Foundation bolts in the floor are recommended. Intermediate pieces can be inserted under the mixer's feet, if the floor is not completely even.

Connection to power:

Before the mixer is connected to power, it should be checked that the voltage and frequency printed on the machine label is correct in relation to the place of installation. The machine label is placed on the back of the mixer at the top.

The mixer must be connected to earth!

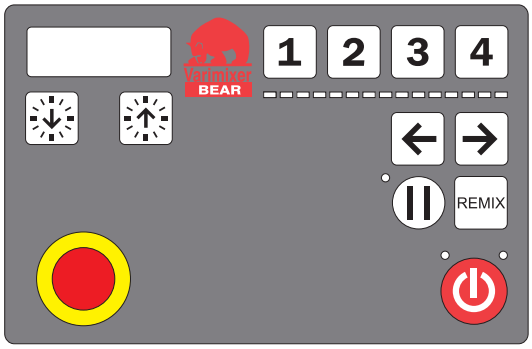
If not, it will cause missing function of EMC filter as well as risk of damaging the frequency converter.

- The mixer must only be connected to single phase power with earth.
- A two-pin plug with earth is to be used. Alternatively two conductors and earth from a 3-phase power supply.
- The mixer must be protected by a differential switch.
- The mixer is secured with a 10A fuse. The fuse is built into the frequency converter which is placed at the back bottom of the mixer. **See "Service instructions" page 10**.

VL2 CONTROL PANEL - SURVEY OF VARIOUS OPERATING SITUATIONS:

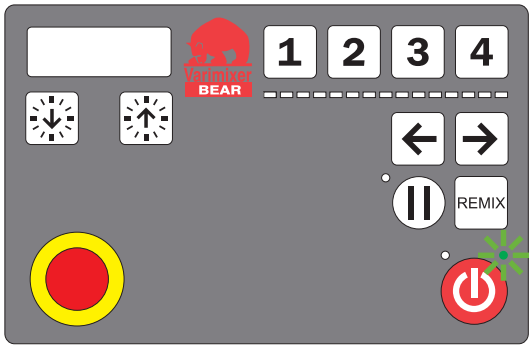
The following pictures show various operating situations and corresponding explanation:

1



Emergency stop is activated - there is no light in the display. If the red diode at ⏻ is flashing, the mixer has stopped because the safety circuit has been interrupted, either because the bowl arms have been lowered or the safety guard has been opened.

2

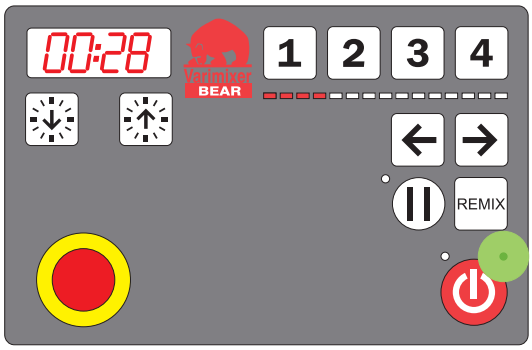


The mixer is connected to power and is ready for start - flashing of the green diode at ⏻ will show that!
It is possible to set a start speed by pushing one of the fixed speeds or →, before ⏻ is pushed.
When ⏻ is pushed, the mixer will start in minimum speed.

Operating time is stated by pushing ↑ or ↓.

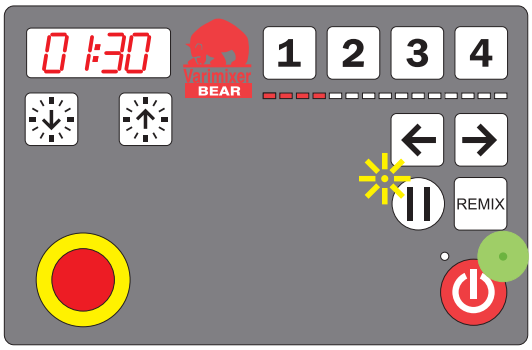
A program is run by first pushing REMIX and thereafter the wanted number, e.g **1** for program No. 1.

3



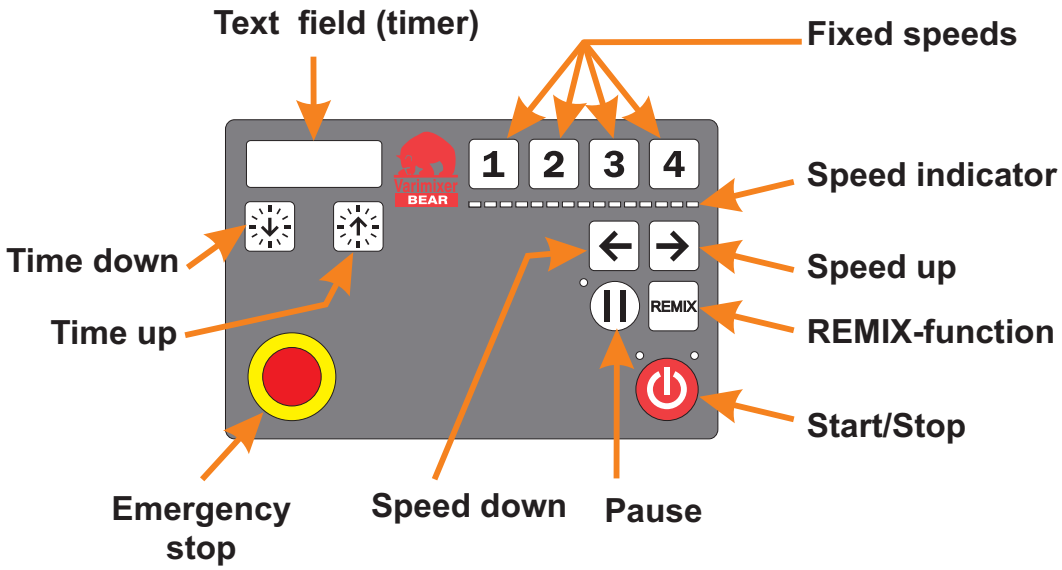
The mixer is running and a speed has been chosen - four diodes on the speed indicator are alight.
The speed can be changed by pushing one of the buttons for the four fixed speeds or ← or →.
The mixer can be stopped without reset of the timer, by pushing ⏸ or by opening the safety guard. The mixer is restarted by pushing ⏸.

4



⏸ **has been pushed** - yellow diode at ⏸ is flashing. The mixer is started by pushing ⏸. The timer will start again and the speed is running up to the chosen speed. If ⏻ is pushed, the timer is reset and the mixer will not start, but is ready for start - green diode at ⏻ will flash **(see picture 2)**.

OPERATION OF THE MIXER:



Before starting the mixer:

Mount the required tool in the bayonet shaft. Place the bowl in the bowl arms and raise it to its working position by means of the handle for bowl lift. Close the safety guard.

The mixer is ready for start.

Start the mixer:

Push to start the mixer.

Push to increase the speed.

Push to reduce the speed.

Or push 1, 2, 3 or 4 to choose one of the fixed speeds.

The speed indicator below the fields 1 to 4 shows the mixing speed of the tool.

Four fixed speeds:

For quick choice of speed, use the fields 1 to 4 .

Field 1 corresponds lowest speed, aprox. 110 RPM.

Field 2 corresponds aprox. 212 RPM.

Field 3 corresponds aprox. 318 RPM.

Field 4 corresponds maximum speed, aprox. 420 RPM.

It is possible to change the fixed speeds - see the paragraph **„Change of fixed speeds“**.

Indication of operation time:

Before starting the mixer, an operation time for the mixer can be chosen by pushing or . The operating time will be shown in minutes and seconds in the timer field between and .

The maximum operating time is 60 minutes.

Inspection of the ingredients during operation:

If it is wished to stop the mixer without reducing operation time and speed, push . The mixer will reduce speed and then stop, the operation time will also stop.

It is now possible to open the safety guard to check the ingredients.

Close the safety guard and push , and the mixer will start and will increase the speed to the speed chosen before pushing . The operating time will also be continued.

If the bowl is lowered while the mixer is stopped, the operating time is reset, and must be pushed to restart the mixer.

The Remix function:

The special Remix-function is a shortcut to programming of recipes. While the mixer is operated, all commands are stored, and when a recipe is finished and ⏻ is pushed, it is possible to store the entire recipe under a program number.

- There are four program numbers.
- A program cannot be deleted, but can be replaced.
- The programs are not deleted in case of no power.

How to store a program:

- First push ⏻.
- Run the entire recipe including pauses and changes of speed.
- Push ⏻.
- Store the program as program No. 1 by pushing both REMIX and 1 continuously, until the total length of the program is shown in the timer field. The timer field will thereafter flash **„P1“** three times.

How to run a program:

- First a short push on REMIX and then on 1. Now **„P1“** appears in the timer field and immediately thereafter the total length of the program will be shown. The program is run by pushing ⏻.
- If the speed or the time is changed, or II is pushed when running a program, the program will be left and the mixer must be run manually.
- It is possible to open the safety guard while running a program. When the safety guard is closed, the program can be resumed by pushing II.
- If the program is containing a pause, the mixer will stop and at the same time an acoustic signal is heard. When the operator wants to restart the mixer, push II and the program will be resumed.

Change of fixed speeds:

For the fields 2 and 3 it is possible to change the speed for future mixing jobs. Push ← or → to adjust the speed up or down.

If required to store the adjusted speed, push 2 or 3 until two beeps are heard and the diodes of the speed indicator are flashing. The adjusted speed has now been stored in the memory.

To return to the factory settings for button 2 and 3 push 1 and 4 simultaneously, until a beep is heard.

Reset of timer:

The timer can be reset by simultaneously pushing ⏻ and ⏻. If the timer is reset while the mixer is running, the mixer will stop.

Overload:

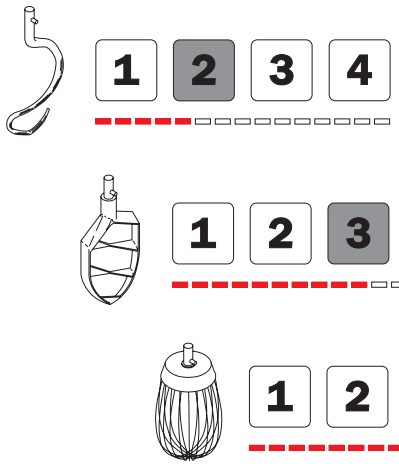
Do not overload the mixer. Sticky and heavy doughs may reduce the capacity of the bowl by 75%. The capacity is further reduced if the speed of the mixing tool is increased beyond the recommended values or if a wrong mixing tool is used. Large lumps of fat or cooled ingredients must be cut into small parts before they are placed in the bowl.

*Overload over a long period will cause that the thermal overload relay will switch off the mixer. Follow the description under **„Procedure in case of overload“***

Procedure in case of overload:

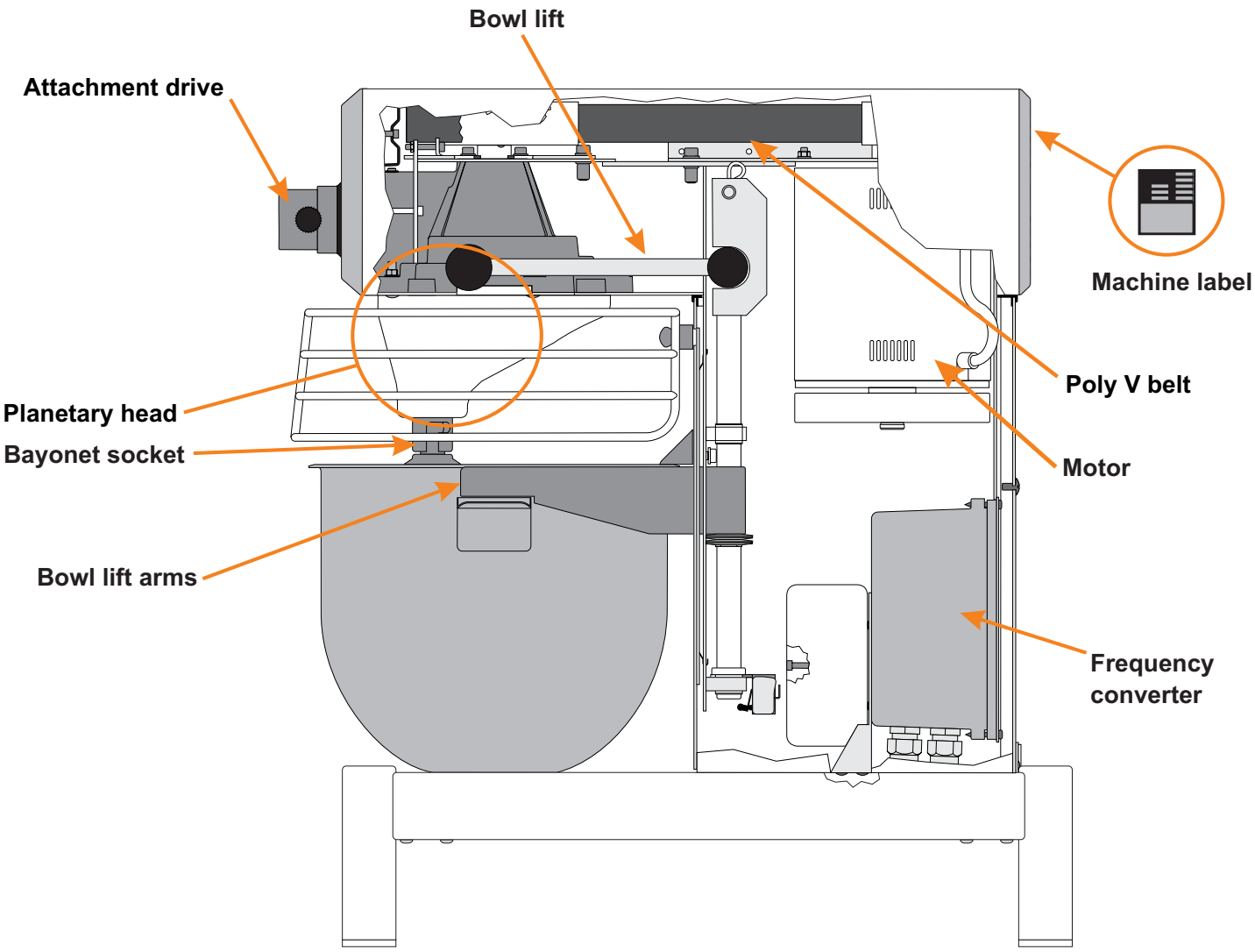
- Push emergency stop
- Release emergency stop.
- Start the mixer by pushing ⏻.

Recommended maximum speeds:



Recommended maximum speeds (factory setting).

CONSTRUCTION OF THE MIXER:



THE MAXIMUM CAPACITY OF THE MIXER:

		RN10 VL-2
Other products	Egg white 1L = 30 eggs	1 L
	Whipped cream	4,5 L
	Mayonnaise (L oil)	5 L
	Mashed potatoes	5 kg
	Biscuit bottom	4,5 kg
	Dough (50 %)	4,5 kg
	Sponge cake	6 kg

AR = Absorption Ratio (%AR)
(Liquid in % of solids)

Example: A basic recipe contains 1 kg of solids and 0,5 kg of liquid:

This gives AR $= \frac{0{,}5\ kg \times 100}{1\ kg} = 50\%$

If for instance it is required to use the maximum capacity of the mixer, the calculated AR = 50% is used for determining the amount of solids and liquid in the dough:

If a 10 L mixer is used, and a dough with AR = 50% is to be kneaded, the maximum capacity is = 4,5 kg. Now the weight of solids in this dough is calculated:

Solids $= \frac{Max.\ capacity \times 100}{AR + 100} = \frac{4{,}5\ kg \times 100}{50 + 100} = 3$ kg

Weight of liquid $= 4{,}5\ kg - 3\ kg = 1{,}5$ kg

Correct use of tools:

Recommended applications for tools:

Whip	Beater	Hook
Cream	Cake dough	Bread dough
Egg whites	Butter cream	Dark bread
Mayonnaise	Waffle dough	and the like
and the like	Minced meat	
	and the like	

Whips should not be struck against hard objects as e.g. the edge of the bowl. This will make the life of the tool shorter due to increasing deformity.

For production of mashed potatoes the special wing whip should be used, not the standard whip.

Cleaning:

The mixer should be cleaned daily or after use. The mixer should be cleaned with a soft cloth and clean water. Sulphonated soaps should be used with caution as they destroy the mixer's lubricants.

***Never** use high pressure cleaning for the mixer.*

*Bowls and tools of aluminium must not be washed with strong alkaline detergents **(pH not bigger than 9.0).***

The soap suppliers can recommend the correct type of soap.

Maintenance and lubrication:

When the mixer is delivered, it has been greased for life and will need no further lubrication.

If the planetary head is repaired, the toothed wheel and the toothed wheel rim shall be greased with **STATOIL Greaseway ALX 82,** the needle bearings of the planetary head must not be greased with this type of grease.

If the mixer is provided with attachment drive, the gear for attachment drive must be greased with **STATOIL Greaseway ALX 82.**

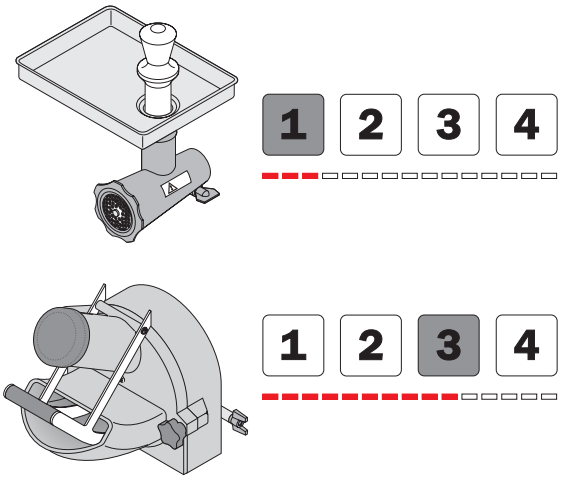
Do not use any another type of grease than the one stated here.

Attachment drive:

The mixer can be equipped with attachment drive for mounting of extra accessories, such as meat mincer or vegetable cutter.
For further information regarding mounting and use of extra accessories, please see the manual following the accessory.

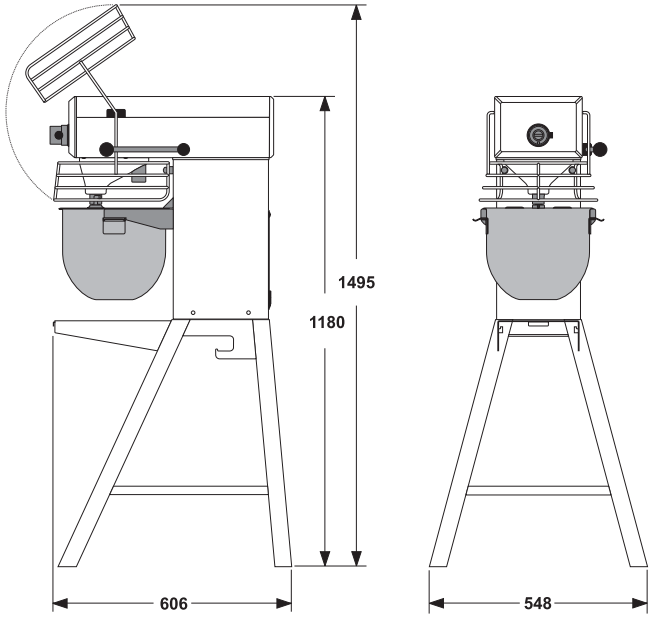
The mixer must be disconnected while the accessory is mounted in the attachment drive!

Recommended max. speeds for attachment drive:

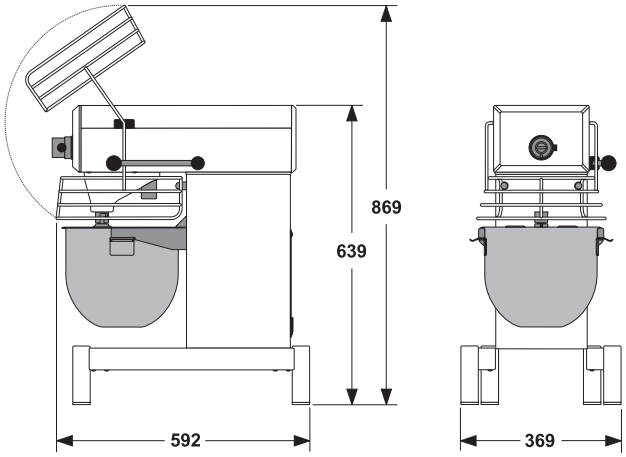


Recommended max. speeds for attachment drive (factory setting).

Dimension sketches:



Dimension sketch for RN10 on floor stand.



Dimension sketch for RN10 table model.

VL-2 CONTROL, ERROR CODES AND POSSIBLE SOLUTIONS:

Error codes and possible solutions:

The VL2 control will in case of certain errors show an error code in the display:

ER:R1 Too high temperature in the frequency converter.

Solution: Switch off the mixer and let it cool down.

ER:R2 Wrong voltage of power supply.

Solution: Compare the voltage indicated on the machine label with the power supply.

ER:R3 The motor has been constantly overloaded for a long period of time. The load has been between 100 - 150% of maximum load. The overload is typically found in case of mixing/whipping tasks with constant load.

Solution: Switch off the mixer and reduce the quantity of ingredients in the bowl. Use lower speed on start up again.

ER:R4 The motor has been overloaded for a short period of time, the load has exceeded 150% of maximum load. The overload is typically found in case of kneading tasks with variable load.

Solution: Switch off the mixer and reduce the quantity of ingredients in the bowl. Activate the emergency stop and release it again. Use lower speed on start up again. If the error code has not disappeared, the frequency converter is defective. See **"Service instructions" page 10** for access to the frequency converter.

ER:R5 Too high temperature in motor.

Solution: Switch off the mixer and let it cool down. Reduce the quantity of ingredients in the bowl. Use lower speed on start up again.

Errors that do not cause an error code in the display:

The mixer does not start when ⏻ is pushed, but the timer is counting as normal. There is no error code in the display.

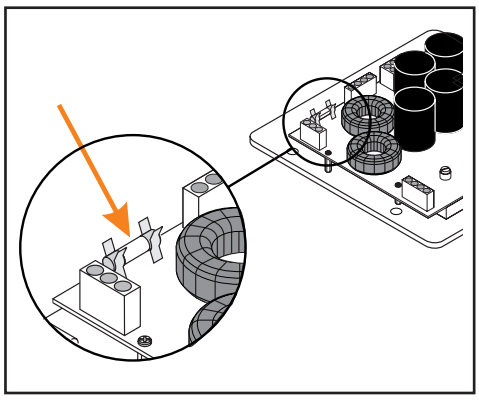
Solution: The frequency converter is defective and must be exchanged. See **"Service Instructions" page 10** for access to the frequency converter.

The mixer does not start when ⏻ is pushed. There is no error code in the display.

Solution: Activate emergency stop and release it again. Now two different codes should be shown in the display. The first code is a small square in top of the first cipher of the display followed by a version code, this is the software version of the control panel. The next code is a small square in bottom of the first cipher of the display followed by a version code, this is the software version of the frequency converter. If no codes are shown or if only the first code is shown, the error can derive from either a defective communication cable between the control panel and the frequency converter, or a defective frequency converter.

The mixer is totally "dead", no light in the control panel.

Solution: Check the connection to power supply, if connection and power supply are OK, the error is either a defective communication cable between the control panel and the frequency converter, or a defective fuse in the frequency converter. See **"Service Instructions" page 10** for access to the frequency converter.



TEST PROGRAMS:

To enter the test mode of the mixer, do as follows:

Raise the bowl and close the safety guard, push emergency stop.

Hold and and release the emergency stop at the same time. Now go through four test programs:

Test program 1: Test of fields.

OBS. The fields must be activated in the following order:

Briefly push the following fields .

The mixer will now automatically run the next three test programs.

Test program 2: Test of light diodes.

For the first 20 seconds the cipher 2 will flash in the display - the remix memory will be erased. Then the light diodes in the speed indicator will light up one by one, while the other light diodes of the control panel are on.

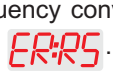
Test program 3: Test of current measurement circuit in the frequency converter.

The motor starts and runs for approx. 20 seconds. After the 20 seconds a text is shown in the display, this text will vary and can only be used for testing the function.

Test program 4: Test of micro switches in safety circuit.

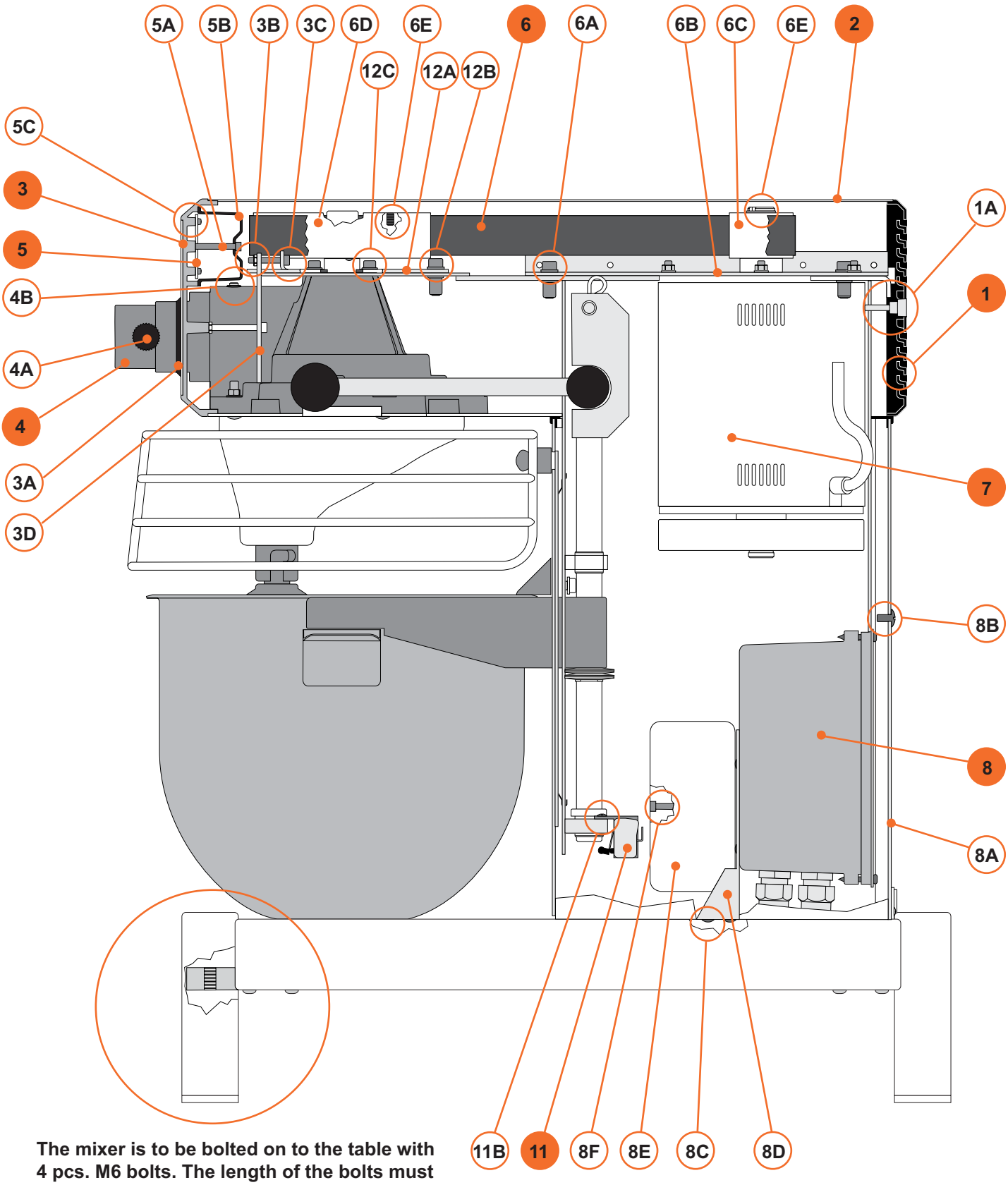
OBS. It is important that the order is kept.

The cipher 1 is shown in the display until the safety guard is opened.

- Open and close the safety guard. The display shall now change to 2. If the display does not change to 2, the micro switch at the safety guard is defective.
- Raise and lower the bowl again. The display shall now show 3. If the display does not change to 3, the micro switch at the bowl lift is defective.
- Conclude the test by pushing emergency stop and release it again. The display shall now show version codes for control panel and frequency converter resp., as earlier mentioned under **"VL2 control, error codes and possible solutions, error**  .

SERVICE INSTRUCTIONS:

Before a possible repair or adjustment, the power must be switched off by dismantling the connection cable from the power supply.



The mixer is to be bolted on to the table with 4 pcs. M6 bolts. The length of the bolts must be 90 mm + the thickness of the table top.

1 Take off **the rear part** by removing the 2 screws **(1A)**

2 **The lid of the mixer** can be taken off when the rear part **(1)** has been removed. Push the lid a little backwards, and lift it free.

3 Take off **the operation panel** by removing the rubber gasket **(3A)** and the thumb screw **(4A)** on the attachment drive. Remove the nut **(3B)** and loosen the 2 screws **(3C).** The screws must still grab the two fittings **(3D)** which are to be lifted up together with the screws.

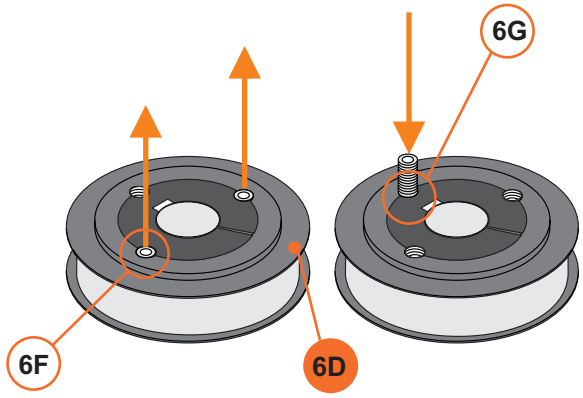
4 Take out **the attachment drive** by removing the thumb screw **(4A),** the rubber gasket **(3A)** and the operation panel **(3).** At last loosen the pointed screw **(4B)**

5 Take off **the display print** by loosening the screw **(5A)** and taking off the plastic box **(5B).** Then loosen the four screws **(5C).**

6 Exchange **the Poly V-belt** in the following way:

a) Take off the rear part of the mixer **(1)** and the lid **(2).**
b) Loosen the four screws **(6A)** holding the motor base **(6B).** By pushing the base towards the front of the mixer, the belt will be slackened and can be lifted off the motor pulley **(6C)** and the planetary head pulley **(6D).**
c) Mount the new Poly V-belt by pushing if down over the two pulleys.
d) Tighten the Poly V-belt by pushing the motor base towards the back of the mixer. Use a big screw driver or the like to hold the base while the screws are tightened.

6C **The motor pulley** can be taken off by removing the locking ring **(6E),** and then using a pulling-off device.



6D Take off **the planetary head pulley** in the following way:

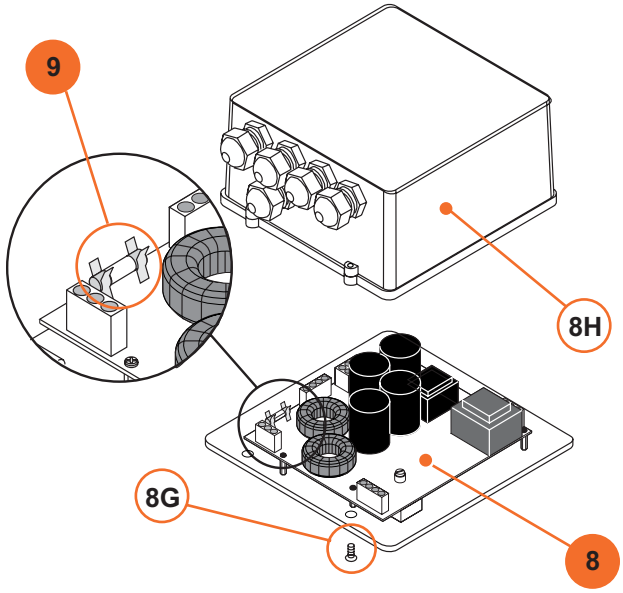
a) Take off the rear part **(1)**, the lid of the mixer **(2)** and the Poly V-belt **(6)**.
b) Screw the pointed screws **(6F)** out of the pulley. The pulley can now be lifted off the clamping ring.
c) To be able to loosen the clamping ring from the shaft, screw one of the pointed screws approx. one turn down into the middle centre hole **(6G)**. The clamping ring can be removed.

7 Take out **the motor** in the following way:

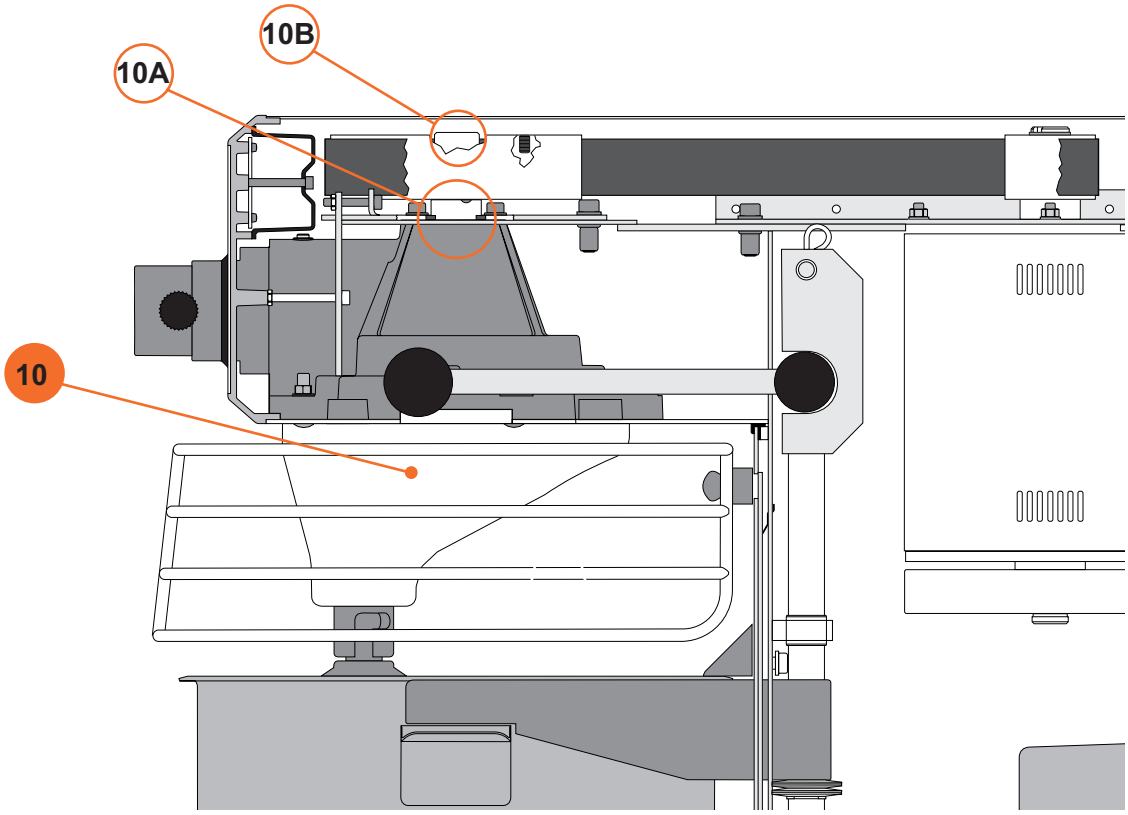
a) Shut off the power to the mixer, or dismantle the power cable from the connection point.
b) Take off the rear part **(1)**, the lid of the mixer **(2)**, and the Poly V-belt **(6)**.
c) Disconnect the motor cable.

8 Take out **the frequency converter** in the following way:

a) Remove the cover plate **(8A)** by loosening the screws **(8B)**.
b) Remove the screws **(8C)** in the bottom of the mixer.
c) The frequency converter including fittings **(8D)** and trafo **(8E)** can now be lifted backwards out of the mixer.
d) The trafo can be loosened from the frequency converter by removing the screw **(8F)**.



9 Exchange **the fuse** by taking out the frequency converter **(8),** loosen the screws **(8G)** and the cover box **(8H)** can now be removed.



10 Take out **the planetary** head in the following way:

a) Take off the lid of the mixer **(2),** the operation panel **(3),** the attachment drive **(4),** the Poly V-belt **(6)** and the planetary head pulley **(6D).**

b) Remove the locking ring **(10A),** and the planetary head can now be loosened by hitting the shaft **(10B)** with a plastic hammer.
Take care not to drop the planetary head.

c) To mount the planetary head again, use a special tool to pull it to its correct position and thereafter follow the above instructions in reverse order.

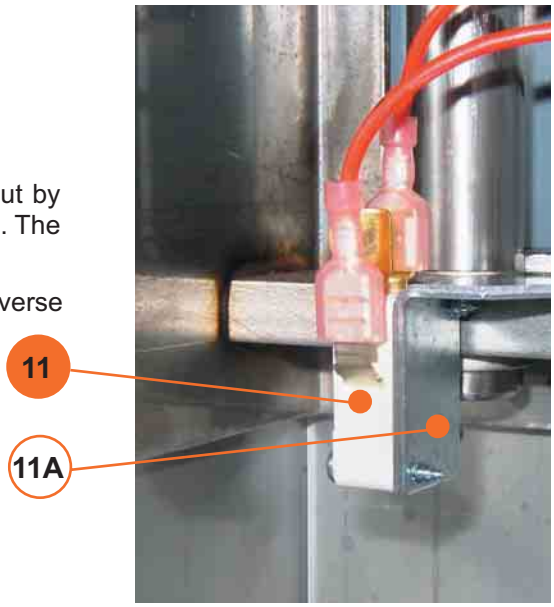
11 Exchange **the micro switch for bowl lift** in the following way:

a) Take off the cover plate **(8A)** on the back of the mixer.

b) Take out the frequency converter **(8)** with fittings **(8D).**

c) The bowl lift micro **(11)** with fittings **(11A)** can be taken out by loosening the two screws **(11B)** and removing the two wires. The micro can not be exchanged.

d) Mount the new micro switch by following the instructions in reverse order. No adjustment is required.



12 Exchange **the micro switch for the safety guard** in the following way:

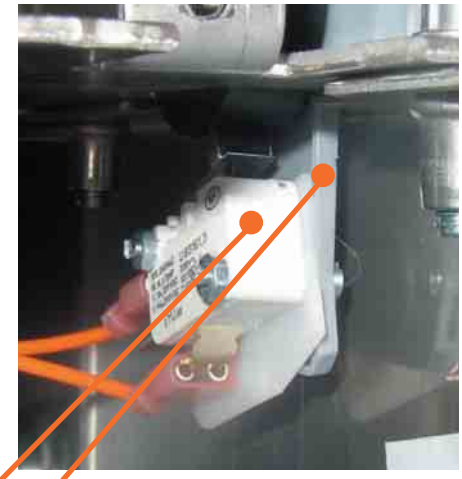
a) Remove the rear part **(1)**, the lid of the mixer **(2)** and the operation panel **(3)**.

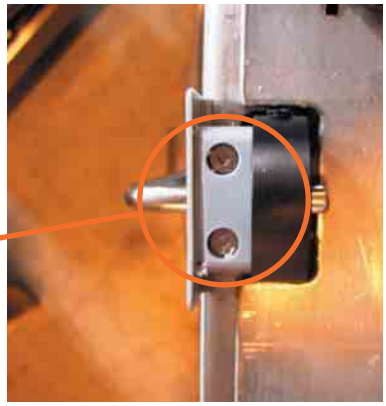
b) Take off the planetary head pulley **(6D).**

c) Remove the top plate **(12A)** by first removing the four screws **(12B)** and thereafter the screws **(12C)**.

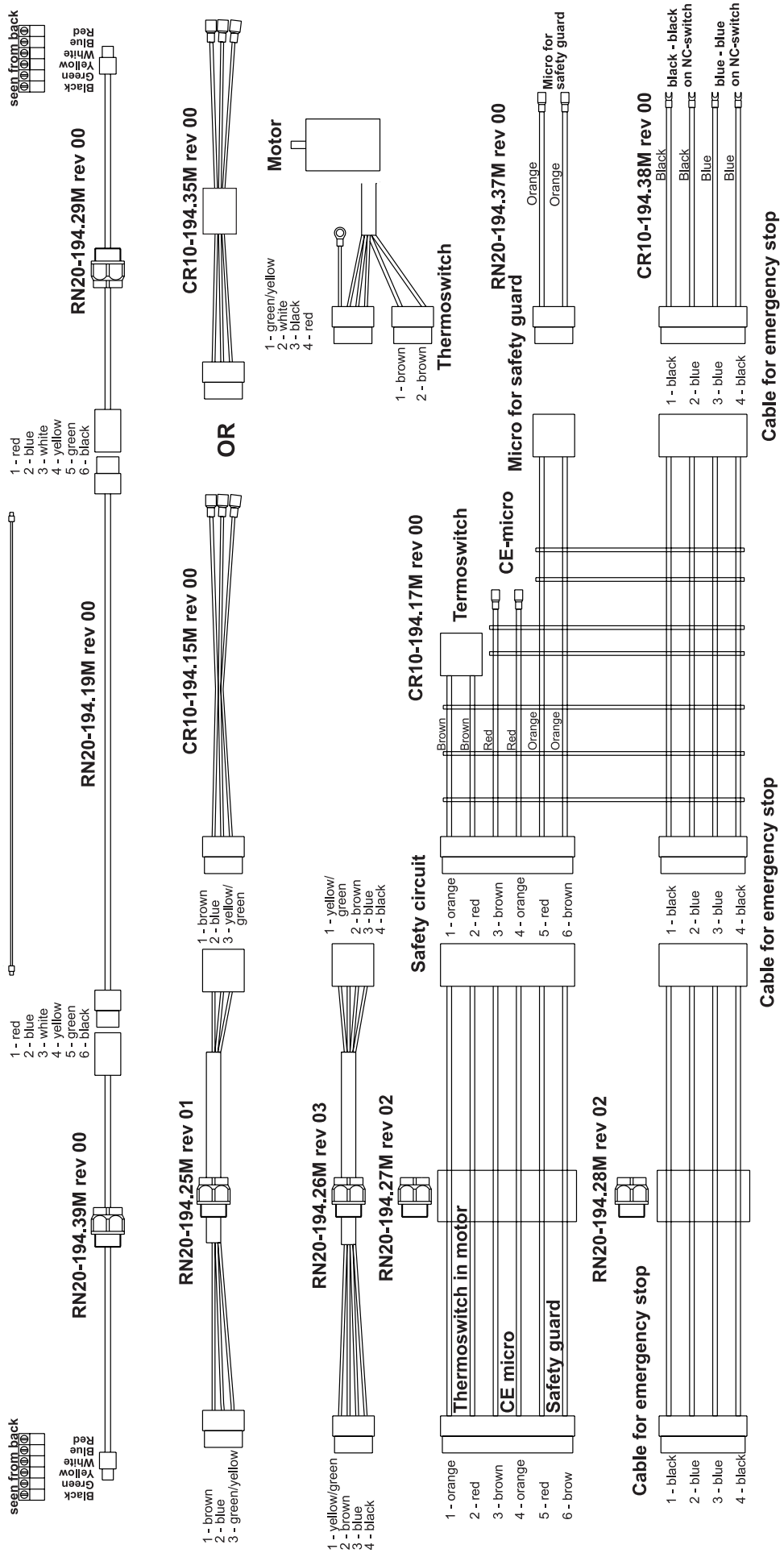
d) Loosen the screws **(12D)** in both sides. Turn the safety guard into to horizontal position, and now the safety guard including fittings **(12E)** with micro switch can be lifted up. The micro switch can now be exchanged.

e) Screw the new micro switch on to the fittings, and follow the instructions in reverse order.





CABLING DIAGRAM:



ELECTRICAL DIAGRAMMES: